

Appl. No. 10/748,830
Amdt. Dated June 21, 2006
Reply to Office Action of Jan. 25, 2006

REMARKS

Current Status of the Application

Claims 1-14 are pending in the application.

Applicants have amended claims 1, 7, 11, 13 and 14; and claims 15 and 16 are newly added. Support for the changes can be found in previously filed claims and the specification. Claim 1, as amended, discloses "the micro-mirror unit is configured for being selectably switched between an on state and an off state according to a driving signal, the micro-mirror unit reflecting light beams emitted from the light source to the projection lens in the on state, the micro-mirror unit not reflecting said light beams to the projection lens in the off state". Such contents can also be found in paragraph [0013] of the specification, i.e., "the light modulation unit 32 reflects light beams emitted from the light source 30 to the projection lens 34 in the on state, and does not reflect the light beams to the projection lens 34 in the off state". Also, in paragraph [0011], it is disclosed that "[A]luminum is evaporated on an outer surface of the micro-mirrors in order that the micro-mirrors operate as square mirrors (for example) having high reflectivity", and "in the off state, the red micro-mirror does not reflect any incident light beams, which

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produces not color (i.e., black).” Applicants submit the other claims remain unchanged, and a reconsideration of the present claims is respectfully requested.

Applicants further submit that the Advisory Action was not appropriately made. The Examiner fails to comply with a requirement set forth in MPEP §707.07(f) “Answer All Material Traversed”, in which it is held that “[W]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s argument and answer the substance of it”. Instead, the Examiner addresses the status of Final Office Action, failing to take note of that which was argued by Applicants at all, to the broadest understanding (See the last Paragraph of Page 8 of “Reply filed March 08, 2006”, hereinafter REPLY).

Enablement Requirement

Applicants noted in the REPLY that the Examiner did not officially maintain the previous rejection made under 35 U.S.C. §112, 1st paragraph. However, in the Response to Arguments section, the Examiner stated that “Applicant’s argument with respect to the enablement rejection (of the previous nonfinal Office Action) is unpersuasive” because while “it **admittedly is known to use color filter arrays to form multicolor light**

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beams or color separation means to separate white light into color components, such features were not described in the specification as pertaining to Applicants' invention" (Emphasis added).

Applicants respectfully disagree with this statement (See page 2 of REPLY), submitting that sufficient support is provided by the application, as originally filed. As set forth in MPEP §2164.01 and the related case law cited therein, "[any] analysis of **whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information** regarding the subject matter of the claims as to enable one skilled in the pertinent art **to make and use the claimed invention.**" (Emphasis added.) As such, it is the originally-filed specification, as a whole, that must be considered in determining whether adequate support exists under 35 U.S.C. §112, 2nd paragraph. Applicant respectfully submits that the test presented does not require that all features be particularly "described in the specification as pertaining to Applicants' invention", *per se*, as contended by the Examiner, and that Paragraphs [0007], [0013], and [0015] constitute a part of the original disclosure, providing for the separation and reflection of a particular color of light by

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each given mirror. Further, as provided in the Background (Paragraph [0004]), “[in] many color projection display devices, a white light source is separated into red, blue and green sub-beams for separate modulation by corresponding color components of an incoming driving signal ...”. Thus, to the extent claimed, Applicant submits that the use of color filter arrays was enabled by the specification at the time of filing thereof.

Furthermore, Applicants submit that a mention of an enablement issue in the “Response to Arguments” section does not qualify as an officially stated rejection within the current Final Office Action. Accordingly, Applicants contend that a new Office Action is required to present such a rejection to officially maintain such an argument and that such a rejection would have to be treated as though newly presented. Specifically, Applicants submit that this issue is not changed by the current amendments to the claims and thus cannot be considered as having been necessitated thereby.

Claim Rejections - 35 USC §103

Claims 1, 2, 8, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 5,612,814) in view of Gove et al. (US

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5,489,952). In response thereto, Applicants have amended claims 1 and 11 and hereby otherwise traverse these rejections.

Claim 1, as amended, recites in part:

the micro-mirror unit is configured for being selectably switched between an on state and an off state according to a driving signal, the micro-mirror unit reflecting light beams emitted from the light source to the projection lens in the on state, the micro-mirror unit **not reflecting** said light beams to the projection lens **in the off state** . . . (Emphasis added)

Applicant submits that such a color projection display as set forth in amended claim 1 is neither taught, disclosed, nor suggested by Yang '814, Gove et al. '952, or any of the other cited references, taken alone or in combination.

Neither Yang '814, nor Gove et al. '952 teaches, discloses, or suggests that "micro-mirror unit is configured for being selectably switched between an on state and an off state according to a driving signal, the micro-mirror unit reflecting light beams emitted from the light source to the projection lens in the on state, the micro-mirror unit **not reflecting** said light beams to the projection lens **in the off state** . . ." as

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set forth in claim 1 (Emphasis added).

Yang '814 and Gove et al. '952, taken alone or in combination, mention nothing about an on state and an off state, specifically "the micro-mirror unit **not reflecting** said light beams to the projection lens in **the off state**".

Please note, Yang '814 teaches "[T]he notations I_1 and I_2 in FIGS. 3B and 4B represent a portion of the primary light beam reflected by the unbending portion 260 of the actuated mirror 230 and the remaining portion of the primary light beam reflected by the bending portion 290 of the mirror on the actuated mirror 230 when and electric signal is applied thereto, respectively" and "[W]hen the electric signal is applied to the actuator 240, the portion of the primary light beam I_1 reflected by the unbending portion 260 of the mirror might get projected onto the projection screen 90 as a color noise in case of the first preferred embodiment, whereas the portion of the light beam I_1 shown in FIG. 4B gets disturbed by the diffusion bands of the black matrix 310 in the array of $M \times N$ pixel filters 320, eliminating the possibility of occurrence of any color noise in the second embodiment of the present invention" (Column 5, lines 23-38; Emphasis added). **Yang '814 indicates or suggests**

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nothing about an off state according to a driving signal, in which the micro-mirror unit does **not reflect** the light beams to the projection lens. On the contrary, according to Yang '814, when applied with electric signals, both the bending portion and the unbending portion of the mirror reflect the primary light beam.

Similarly, claim 8, as currently amended, recites in part:

A color projection display device, comprising: ...

each micro-mirror being configured for reflecting light beams emitted from the light source to the projection lens when in an on state and further configured for not reflecting said light beams to the projection lens when in an off state ...
(Emphasis added)

For the similar reasons as discussed above addressing the allowability of claim 1, Yang '814 and Gove et al. '952, taken alone or in combination, fail to teach, disclose or suggest the limitation of "each micro-mirror being configured for reflecting light beams emitted from the light source to the projection lens in an on state and further being configured for **not reflecting said light beams to the projection lens in an off state ...**" (Emphasis added) as set forth in claim 8. Therefore,

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claim 8 is submitted to be novel and unobvious over Yang '814 and Gove et al. '952, and thus should be allowable.

Likewise, claim 11, as currently amended, recites in part:

A color projection display device, comprising: ...

a driving circuit for providing a digital signal to the micro-mirror array to maintain each micro-mirror thereof in an on state or in an off state, **each micro-mirror** being configured for reflecting light beams emitted from the light source to the projection lens when in the on state and further being configured for **not reflecting said light beams** to the projection lens when **in the off state**; wherein through an on-off state change of each of said micro-mirror, **a combination of the light beams defines at least 2³ alternatives.** (Emphasis added)

For the similar reasons as discussed above addressing the allowability of claim 1, Yang '814 and Gove et al. '952, taken alone or in combination, fail to teach, disclose or suggest the limitation of "**each micro-mirror** being configured for reflecting light beams emitted from the light source to the projection lens when in the on state and further being configured for **not reflecting said light beams** to the projection

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lens when in the off state". Furthermore, as discussed above, Yang '814 discloses that when applied with electric signals, both the bending portion and the unbending portion of the mirror reflect the primary light beam, and therefore, whatever the electric signals applied, the micro-mirror of Yang '814 presents no situation in which a black color (i.e., no color) is produced. Accordingly, Yang '814 does not suggest the limitation of "a combination of the light beams defines at least 2³ alternatives" as well, since such at least 2³ alternatives are composed of three colors out of four (i.e., red, green, blue, and black). Therefore, claim 11 is submitted to be novel and unobvious over Yang '814 and Gove et al. '952, taken alone or in combination, and thus should be allowed.

Furthermore, Applicants submit that the rejections thereto had been previously traversed for the following reasons, and such arguments have been not answered as required by the guidelines set forth in MPEP §707.07(f). The Examiner is invited to fully reconsider all of these arguments and answer such clearly, addressing the numbered reasons:

1. The proposed modification definitely eliminates or at least bypasses the source stopper and the reflection mirror, thus rendering the prior

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art unsatisfactory for its intended purpose and destroying the operational principle of the primary reference, i.e., Yang '814 (MPEP §2143.01) (See Pages 3-5 of REPLY).

2. Further, a teaching or a suggestion to make such a claimed combination cannot be found in the cited prior art references, e.g., Yang '814 and Gove et al. '952. On the contrary, a teaching, a suggestion, or a desirability to do so can only be found in Applicant's prosecution documents (Communication filed on Nov. 04, 2005, Page 15), evincing the use of impermissible hindsight (MPEP §2145.X.A.; See Page 6 of REPLY).
3. When considered in its entirety, Yang '814 teaches away from being modified to use a direct illumination as the Examiner alleged (MPEP §2143.02; See Pages 6 and 7 of REPLY).
4. Applicants note that Gove et al. '952 is silent to the reason or any advantage of using direct illumination of a spatial light modulator 118 with light from a light source 120. Thus, it is believed that, even if the prior art references could be combined, there is no suggestion or motivation for doing so, which can be derived from the references themselves or from a source other than the instant application.

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5. Furthermore, Applicants submit that even modifying Gove et al. '952 with Yang '814, a *prima facie* obvious case cannot be made against the present application. Gove et al. teach "[T]his invention relates to ... displays that must support multiple video standards and use two dimensional spatial light modulators (SLMs) as their light modulating elements" (Column 1, lines 7-10), and "[T]he present invention ... addresses problems with spatial light modulator designs and algorithms that work together to present multiple video standards ... (Column 1, lines 62-64). Gove et al. '952 also teach "[A] multi-format display system including hardware and algorithms for digital and High Definition Television" (ABSTRACT). Applicants submit that televisions are functionally and structurally different from the color projection display device as set forth in the current claims, and the SLM is critical and not replaceable according to the principle of operation of Gove et al. '952, as reflected therein and exemplified above. Such an SLM does not read on the claimed micro-mirror unit, e.g., switching from an on state and an off state. Therefore, Applicants submit that Gove et al. '952 cannot be taken alone or as a primary reference being modified with any other references, including Yang '814, to arrive at the present application.

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Claims 2, 9, and 12 depend from claim 1, 8 and 11, respectively, and therefore should also be allowable.

Claims 3-7, 10, 13 and 14 are rejected under 35 U.S.C 103(a) as being unpatentable over Yang and Gove et al. as applied to claim 1, and further in view of Hornbeck (5,583,688)

Claims 3-7 depend from claim 1 and, therefore, should also be allowable. Claims 10 and 14 depend from claim 8 and, therefore, should also be allowable. Claim 13 depends from claim 11 and, therefore, should also be allowable.

New Claims

Claims 15 and 16 are newly added, depending on allowable independent claim 1, and thus should also be allowable. Particularly, Applicants submit that claim 15 contains allowable subject matter, "the micro-mirror unit produces no color, thereby resulting in a black appearance", that is not found in Yang '814 and/or Gove et al. '952, nor suggested thereby.

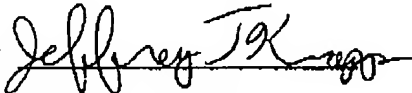
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CONCLUSION

In view of the foregoing, Applicant submits that the present application is now in condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,

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